

REMARKS

Applicant has carefully reviewed the Office Action mailed July 5, 2007 and offers the following remarks in response thereto. Applicant respectfully traverses the Patent Office's rejections in accordance with the explanations provided below.

Rejection of Claims 23-26 under 35 U.S.C. § 112, ¶ 2

Claims 23-26 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Patent Office opined that it is unclear as to who or what receives the input settings. Claims 24-26 depend on claim 23. Thus, the Patent Office is rejecting claims 24-26 based on this dependency on claim 23. Applicant respectfully traverses.

An applicant is allowed to define his or her invention by claim language of his or her own choosing. The claim must include patentable subject matter and be definite. MPEP § 2173.02 sets forth the appropriate inquiry for a rejection under 35 U.S.C. § 112, second paragraph as not particularly pointing out and distinctly claiming the invention, and is repeated below.

The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
 - (B) The teachings of the prior art; and
 - (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.
- In reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph.

Claim 23 is a method claim and thus recites limitations in the form of steps. Claim 23 includes the further steps of "receiving an adjustment input setting from the human," and "adjusting the target respiratory rate based on the adjustment input setting." Thus, it is clear that the adjustment input setting is received from the human and used to adjust the target respiratory rate. Antecedent basis is provided back to the "target respiratory rate" in claim 21 that instructs the human on the target respiratory rate. Thus, the claimed invention is clear in that the target

respiratory rate provided to instruct the human can be adjusted based on input from the human. This is what is claimed. Nothing further is required to be stated. Claim 23-26 are not indefinite.

Rejection of Claims 21-26, 32, and 33 under 35 U.S.C. § 102(e) - Stabler et al.

Claims 21-26, 32, and 33 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,836,681 B2 to Stabler et al. (hereinafter “Stabler”). Applicant respectfully traverses. For a reference to be anticipatory, the reference must disclose each and every claim element. Further, the elements of the reference must be arranged as claimed. MPEP § 2131. The requirement that each and every element be disclosed in the manner claimed is a rigorous standard that the Patent Office has not met in this case. Stabler requires biological feedback as part of its instructing a human on breathing and thus cannot anticipate the claimed invention. The claimed invention excludes biological feedback. However, before further discussing Stabler, Applicant provides a brief summary of the claimed invention.

The claimed invention relates to a method and system for allowing a human subject to consciously control and achieve synchronization of heart beat variability (HRV) with breathing cycle without biological feedback. HRV can be used as an indicator of physiological and emotional state, because HRV is the change in heart beat rate. An irregular HRV is typically associated with stress. A regular HRV is typically associated with physiological harmony. Thus, synchronization of HRV allows achievement of “coherence,” or consistency in heart rate. While a heart has its own tendency toward heart beat rhythm and thus HRV, the breathing cycle can also influence HRV. For example, the heart beat rate tends to increase as inhalation occurs. Likewise, the heart beat rate tends to decrease on exhalation.

As recited in independent claim 21 as an example, in order to achieve coherence, a target respiratory rate is provided. The human is then instructed to breathe at the target respiratory rate in an effort to achieve coherence of HRV by synchronizing a HRV cycle and a breathing cycle corresponding to the target respiratory rate. The target heart rate is not derived from biological feedback from the human. The Applicant recognized that a target respiratory rate can be provided to instruct a human on breathing to achieve coherence without feedback of HRV or other biological feedback. This is because the breathing cycle influences the HRV cycle in such a way that the HRV cycle will synchronize with the breathing cycle. This synchronization may occur optimally if the target respiratory rate (i.e. target breathing cycle) is close or equal to the

natural center frequency of the HRV cycle. By example only, a center frequency of the HRV cycle for a typical human may be 0.85 Hz, which is a period of approximately 11.8 seconds. Thus, instructing the human to breathe in a particular breathing cycle can achieve coherence without biological feedback. All the claims have similar requirements.

Unlike the claimed invention, Stabler instructs a human to breath at a target rate based on biological feedback sensors attached to the patient (i.e. human). For example, the “Summary of the Invention” in Stabler indicates that HRV is displayed to the patient in a feedback fashion on a display while the patient is connected to a feedback monitor. (col. 2, ll. 35-38) This allows the patient to view their own HRV and the desired and undesired ranges of HRV based on their breathing cycle. (col. 2, ll. 38-41) Based on this feedback, the system and method of Stabler includes “teaching the person how to breath to reach the desired range of HRV and verify that the person reached the desired range of HRV by viewing the display” (i.e. feedback) (col. 2, ll. 41-44, emphasis added)

Stabler further emphasizes its feedback nature at column 4, lines 9 through 18. In this section, Stabler indicates that “coaching with valid real-time feedback for us and the client is extremely effective.” (emphasis added) When the computer in Stabler indicates the human is in the “zone,” meaning maximum coherence, the HRV may be observed on a wrist watch feedback display so that later when the system monitors the patient, the HRV can be observed by the patient to determine if coherence is being achieved. This is further evidence that Stabler teaches a feedback system where the target heart rate is derived from biological feedback unlike the claimed invention.

The Patent Office points to column 3, lines 25 through 35 of Stabler to support its position. This is a breathing instruction step. However, as part of this same step at column 3, lines 49 through 51, Stabler provides that a tension strap is provided around the human as a feedback sensing device. A graph of heart rate and amplitude of breathing is displayed to the patient to indicate to the patient whether the HRV and breathing cycles are synchronized in a feedback fashion. Further, when this section is read in context with other parts of Stabler discussed in the preceding paragraphs, including the Summary of the Invention, which is of particular importance when determining what is taught, it is clear that Stabler is a feedback system.

Thus in summary, it is clear that Stabler provides a target heart rate to the patient to control breathing based on biological feedback. The claimed invention excludes biological feedback to provide the target respiratory rate. Thus, the Stabler cannot anticipate the claimed invention, and this rejection must be withdrawn.

Rejection of Claims 27-31 under 35 U.S.C. § 103(a) - Stabler

Claims 27-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stabler. Applicant respectfully traverses. For the Patent Office to establish *prima facie* obviousness, the Patent Office must show where each and every claim element is taught or suggested in the reference(s). MPEP § 2143.03. Further, the Patent Office is not allowed to extract isolated portions of the reference; rather, the reference must be considered in its entirety. MPEP § 2141.02.


Claims 27-31 depend from independent claim 21. Accordingly, the rejection of claims 27-31 should be withdrawn for at least the same reasons as claim 21. Specifically, Stabler provides a target heart rate to the patient to control breathing based on biological feedback from the patient; the claimed invention excludes biological feedback in this manner. Thus, it is not necessary to address any other points regarding the Patent Office's rejection to overcome this rejection. However, Applicant reserves the right to provide additional arguments against the specific rejections of claims 27-31 in the future, if required.

The present application is now in condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,

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